

How to Use the Maryland Statewide Bulk LiDAR Downloads

What are the MD iMAP Statewide Bulk LiDAR Downloads?

The Maryland State Bulk LiDAR Downloads are a series of grouped LAZ downloads from LiDAR collections in Maryland. LAZ is a compressed format of the standard point cloud LAS format; this allows for access to much larger areas of interest with each individual download.



What LiDAR is Available from MD iMAP?

MD iMAP hosts the most recent LiDAR data for each county in Maryland. This consists of a variety of LiDAR collections that have been acquired over the years through various project partners including FEMA, USGS, NRCS and county governments.

Maryland LiDAR is available as image services on the MD iMAP [Topography Server](#), and Countywide DEMs are available on the [Pre-Defined Download Page](#). In addition, users can access products through the [Maryland Topography Viewer](#) web application and [ArcGIS Online](#).

For those users who require point cloud data, we offer the bulk LiDAR downloads through Dropbox. These downloads include the LAZ files, a tile index, metadata, a README.txt file and the executable for converting your LAZ back to LAS.

The following instructions provide details on downloading the bulk dataset and converting your LAZ to LAS.

There are three methods for obtaining bulk LiDAR downloads in Maryland:

[**METHOD 1: Navigate directly to the Data – Dropbox Directory**](#)

[**METHOD 2: Access the Bulk LiDAR Downloads Web Map**](#)

[**METHOD 3: Access the Maryland Bulk LiDAR Downloads Feature Service**](#)

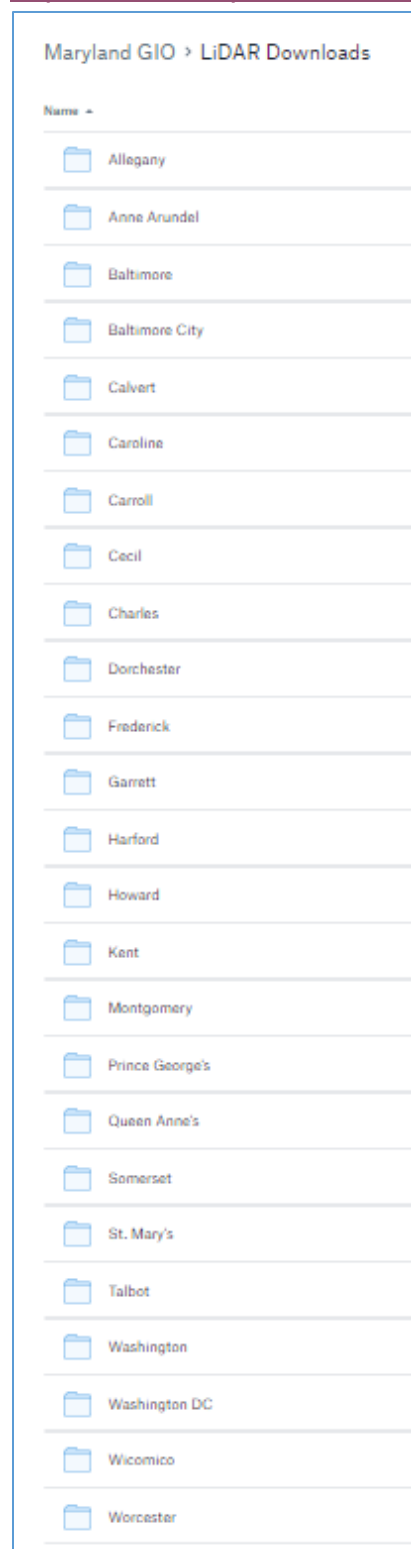
Once you have downloaded the data, you'll likely need to convert the LAZ back to LAS for further processing. The final section in this document will guide you through that process:

[**LAZ – LAS Extraction Guide**](#)

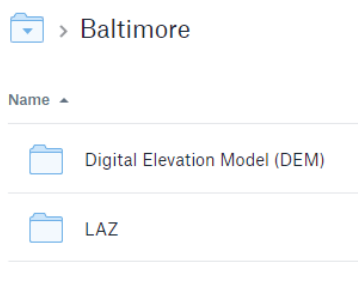
METHOD 1: Navigate Directly to the Data – Dropbox Directory

The following link will direct you to the Maryland LiDAR Downloads folder on Maryland's Geographic Information Office Dropbox account:

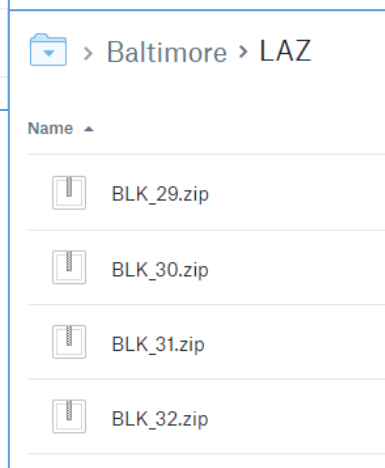
<https://www.dropbox.com/sh/rhpkdeixw56r9yv/AADgszOUqYtNdfrKAYIEMBuza?dl=0>



Within each county folder you will find DEM and LAZ subfolders. Select the LAZ subfolder to expand the downloadable files for the county of interest.



For a countywide extent, you will need to download all BLK_#.zip files within that county folder.



Once you have downloaded the BLK_#.zip file, extract the files to your preferred directory.

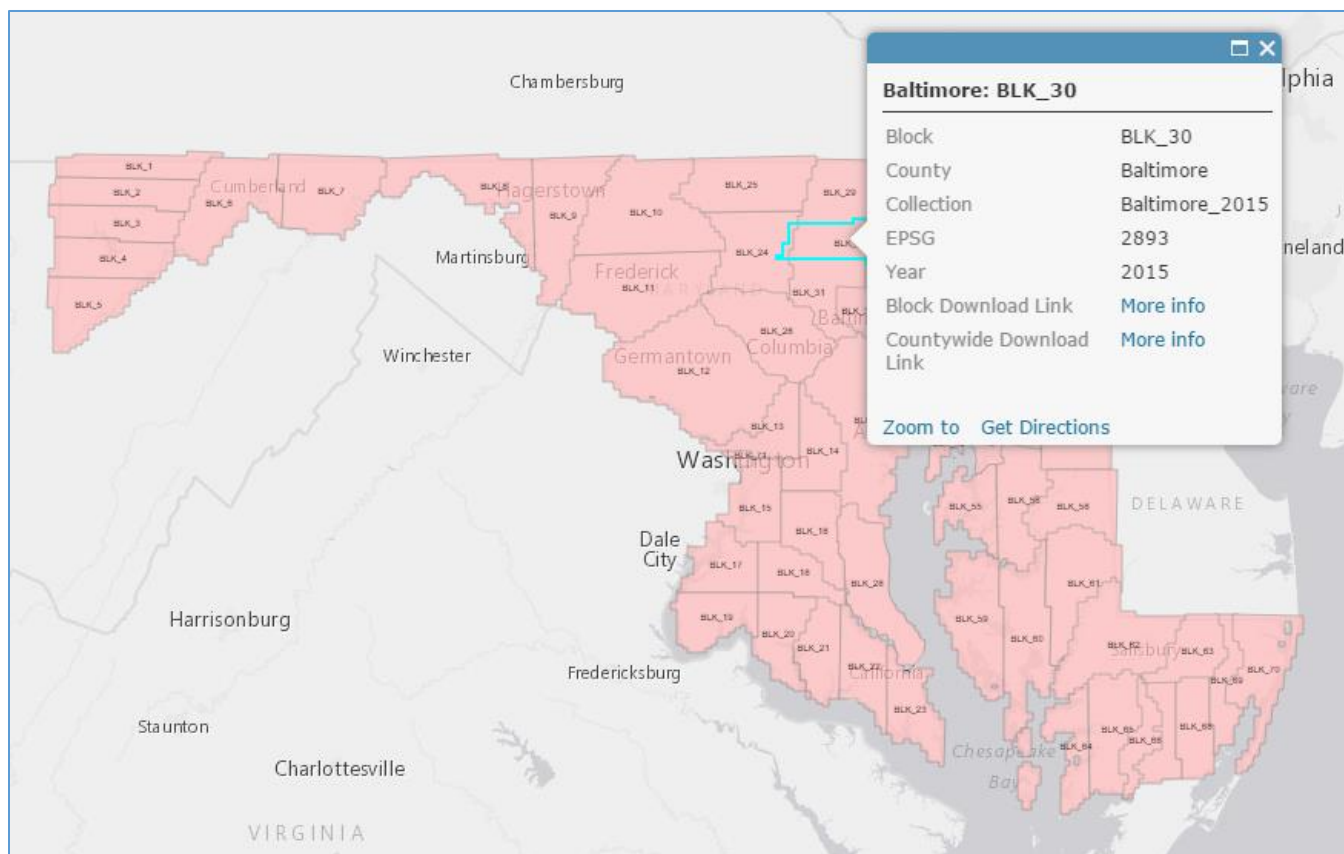
Continue with the [Extraction Guide](#) at the end of this document for instructions on converting the file format from LAZ to LAS.

METHOD 2: Access the Bulk LiDAR Downloads Web Map

The following link will direct you to the Maryland LiDAR Downloads folder on Maryland's ArcGIS Online account:

<http://arcg.is/2phApaf>

Single click the desired BLK tile to return download links and collection information:



Block Download Link will take you directly to the LAZ download for the selected BLK tile.

Countywide Download Link will take you to the countywide directory; including DEM and LAZ subfolders within.

Continue with the [Extraction Guide](#) at the end of this document for instructions on converting the file format from LAZ to LAS.

METHOD 3: Access the Maryland Bulk LiDAR Downloads Feature Service

Some users may prefer to connect directly to the ArcGIS Feature Service:

http://lidar.geodata.md.gov/imap/rest/services/Status/MD_DownloadBlocks/FeatureServer

If you require an ArcGIS Server Connection through ArcGIS for Desktop, please read

[How to Access the Maryland LiDAR Topography Server](#)

Maryland Download Feature Service layer is located within the Status folder of the ArcGIS REST Services Directory.

Once you've added the layer to ArcGIS for Desktop, you can access the Feature Service layer's attribute table.

Block Download Link will take you directly to the LAZ download for the selected BLK tile.

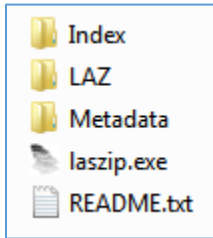
Countywide Download Link will take you to the countywide directory; including DEM and LAZ subfolders within.

Continue with the [Extraction Guide](#) at the end of this document for instructions on converting the file format from LAZ to LAS.



LAZ – LAS Extraction Guide

Once you have downloaded the desired BLK_#.zip from Dropbox, extract the zipped folder to a directory of your choice.



Compression ratios are roughly 85%, so for a 10GB download from Dropbox you'll require about 85GB of available storage to convert the LAZ to LAS.

- Hold [SHIFT] and right click the [LAZ] folder
 - Select "Open Command Window Here"
- Drag and Drop [laszip.exe] from your BLK folder into the command window
 - To save LAS into the existing LAZ directory folder
 - Type " *.laz" > without quotations - note that the first character is a space
 - To save LAS into a new directory
 - Type " *.laz –odir [enter output directory path here]" > without quotations or brackets - note that there are spaces between each parameter

EXAMPLE 1:

```
C:\users\desktop\LAZ>D:\laszip.exe *.laz
```

EXAMPLE 2:

```
C:\users\desktop\LAZ>D:\laszip.exe *.laz –odir C:\users\Desktop\LAS_Output
```

The Metadata folder provided contains detailed information regarding the particular LAS collection you are processing. Most LiDAR collections in Maryland differ in collection year, spatial resolution and spatial reference. As always, please refer to metadata prior to further processing or analysis.

ADDITIONAL RESOURCES

For more information about Maryland LiDAR, please visit the Maryland LiDAR Overview page

Supplementary LiDAR training modules can be found on the [MD iMAP Training Documents page](#)

For additional MD iMAP datasets, please visit the [GIS Data Catalog](#)

For all other inquiries related to Maryland LiDAR, please contact the GIO Office at service.desk@maryland.gov

